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ABSTRACT

Researchers who employ contextual models of parenting contend that it is not spanking per se, but rather the context in which spanking occurs and the meanings children ascribe to spanking, that predict child outcomes. This study proposed two plausible meanings that children may ascribe to spanking--a legitimate expression of parental authority or an act of interpersonal aggression--and hypothesized that to the degree that spanking is perceived as the former, it will not foster child aggression. It also proposed that children's espousal of one or the other of these meanings is a function of both cultural norms and the nature of the family hierarchy. Using data from 1,112 children ages 4 through 11 from the National Survey of Families and Households, the study tested the hypotheses that the association between the frequency of spanking and subsequent child aggression would be stronger for older versus younger children, boys versus girls, whites versus blacks, and single-mother versus mother-father families. Results from structural equation models of main effects indicated significant group differences in children's self-reported fighting by age and race. Spanking predicted fewer fights for children ages 4 to 7 and for blacks, and more fights for children ages 8 to 11 and for whites. The study also tested a model wherein a positive association between spanking and aggression emerges at younger ages for boys, whites, and children in single-mother homes. These attributes were employed as proxies for lower levels of parental control and/or control maintained through punitive means. Investigations of potential interactions between age, gender, race, and family structure using ordinary least squares regression yielded the earliest and strongest positive associations between spanking and fighting for white boys in single-mother homes. (Contains 15 references.) (Author/EV)

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Toward a developmental/contextual model of the effects of parental spanking on children's aggression.

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Abstract

Using data from 1112 children age 4-11 in the National Survey of Families and Households (NSFH), this research tested the hypotheses that the association between the frequency of spanking and subsequent child aggression would be stronger/more positive for older vs. younger children, boys vs. girls, Whites vs. Blacks, and single-mother vs. mother-father families. Results from structural equation models of main effects indicated significant group differences in children's self-reported fighting by age and race. Spanking predicted fewer fights for children 4-7 and for Blacks and more fights for children aged 8-11 and for Whites. We also tested a model wherein a positive association between spanking and aggression emerges at younger ages for boys, Whites, and children in single-mother homes. These attributes were employed as proxies for lower levels of parental control and/or control maintained through punitive means. Investigations of potential interactions between age, gender, race, and family structure using ordinary least squares regression yielded the earliest and the strongest positive associations between spanking and fighting for White boys in single-mother homes.

Toward a developmental/contextual model of the effects of parental spanking on children's aggression.

Statements drafted at a recent conference co-sponsored by the American Association of Pediatrics and the Maternal and Child Health Bureau reveal a general consensus among social scientists that spanking should not be used as a method of discipline for children under the age of two nor for adolescents. On the other hand, there is much controversy regarding the effects of spanking on children who fall in between these ages (i.e., children approximately 2 - 11 years old). Some researchers assert that no child should ever be spanked. This claim is often based on a social learning model of aggression wherein children who are spanked learn that physical aggression is an acceptable response to conflict and subsequently increase their own aggressive behavior.

Rejoinders to this unconditional anti-spanking stance focus on contextual models of parenting.[1] Researchers who employ contextual models contend that it is not spanking per se, but rather the context in which spanking occurs and the meaning children ascribe to spanking that predicts child outcomes. To the best of our knowledge, there are no data directly assessing the meaning children ascribe to spanking. Nevertheless, greater understanding of the effects of spanking on children's aggression may be gained through the speculation of possible meanings and the identification of variables that serve as proxies for meaning.

For the purposes of this research, we suggest two plausible meanings of spanking: (a.) A legitimate expression of parental authority and (b.) an act of interpersonal aggression. To the degree that spanking is perceived as the former, we do not expect parental spanking to

foster child aggression. To the degree that spanking is perceived as the latter, we suspect that social learning may result in increased levels of child aggression.

We also suggest that children's espousal of one or the other of these meanings is a function of both cultural norms and the nature of the family hierarchy. To the degree that children perceive parental spanking as normative within their culture and perceive their parents as legitimate authority figures, we expect that spanking is perceived as a legitimate expression of parental authority (i.e., the first meaning). In contrast, if children believe parental spanking to be either nonnormative, or if the parent-child relationship is not viewed as legitimately hierarchical, we expect that spanking is perceived as an act of interpersonal aggression (i.e., the second meaning).

There are multiple ways in which a parent-child relationship might qualify as "not legitimately hierarchical." While parental control over children's behavior is desirable when children are young, most families experience a realignment in family power as children grow older. Boys, in particular, bid for and gain status with respect to both personal autonomy and family-level decisions during early adolescence.[2-7] Other ways of being "not legitimately hierarchical" are issues of parenting style rather than normative developmental processes. A relationship may qualify because parents have abdicated control prematurely or because they maintain control through punitive means such as verbal coercion or violence, rather than practices generally advocated by most child-development professionals such as time-out from reinforcement.

In this research we employed four demographic measures of context: age, gender, race, and family structure. These characteristics were selected because we suspected that they

would serve as proxies of the nature of the family hierarchy. These characteristics also differentiate children according to the normativeness of parental spanking.

Our primary contextual variable is age. As noted, child age is predictive of family hierarchy because most families experience a realignment of power as children, particularly sons, enter adolescence. This realignment is foreshadowed by changes in children's perceptions of authority which begin to emerge as early as age 7. While young children draw broad distinctions between adults and children and the types of behaviors appropriate for each (Diana Baumrind, personal communication), older children may view themselves as more similar to adults. This has important social learning ramifications. To the degree that imitation is contingent on actors perceiving similarity between themselves and models, parental spanking should be more likely to foster aggression among older children. Age is also related to the normativeness of parental spanking. Reports of the frequency of spanking in the nationally representative database employed for this research declined markedly between ages 7 and 8.

Family status and, most likely, children's perception of the appropriateness of spanking are also a function of race. Black parents tend to grant their children personal autonomy at later ages than White parents. Strict parental control, at least through preadolescence, may be considered normative by Black children, although again, boys experience certain freedoms earlier than girls.[2] A closer examination of race is also merited because spanking seems to co-occur with warmth and reasoning among Black parents.[3] This positive association is likely to influence the meaning children ascribe to spanking.

Finally, family structure may be indicative of children's status. Particularly in cases of

divorce wherein children assume responsibilities previously held by a now-absent father, the realignment of family power normally seen in adolescence is accelerated.[9] Again, interactions between family structure and child gender are likely. While early responsibility may prompt higher/earlier levels of competency among preadolescent girls,[10] boys in single mother homes are at high risk for increased antisocial behavior and delinquency. These maladaptive outcomes appear to be partially attributable to single mothers' difficulties maintaining normative parental authority over their sons.[11]

If our speculations are correct that (a.) The meaning of spanking moderates child outcome (in particular, child aggression), (b.) meaning is a function of both family hierarchy and cultural norms, and (c.) age, gender, race, and family structure are proxies for family hierarchy and/or cultural norms, we expect the relationship between spanking and child aggression to be stronger/more positive for older children vs. younger children, boys vs. girls, Whites vs. Blacks, and single-mother families vs. mother-father families. (Such a model is, admittedly, simplistic but is offered to initiate dialogue concerning some of the possible pathways from spanking to child outcome in different contexts.)

These hypotheses were tested using data from the National Survey of Families and Households (NSFH). Following the examination of these main effects, potential interactions between the four demographic characteristics were also sought.

Method

Participants

The NSFH[12] is a public database that provides a broad array of information about families in the United States, as reported by several family members including a main

respondent and a designated focal child. The sample was designed to be representative of families in the U.S., although certain subgroups (e.g., minorities and children in single-parent homes) were oversampled to provide sufficient numbers of these families for analyses.

Two waves of data are included in the NSFH. The first was collected in 1987-88 and the second in 1992-94. The intended time between interviews was five years. Due to scheduling difficulties and the desire to obtain as much self-report data as possible from children aged 10 and older, the actual length of the time between interviews varies from four to six years (mode = five).

The selection of families for the present study was based on the following criteria: (a.) Main respondents (parents) were non-hispanic White or Black, (b.) at Time 1, children were age 4-11 and living in some type of a mother-father or a single-mother household, and (c.) both parental reports and child self-reports of child outcomes were available at Time 2. The number of families who met these criteria was 1112.

Measures

Time 1

Time 1 measures included the frequency of spanking and 11 control variables assessing the context in which the spanking occurred.

Spanking. Interviewers asked parents "Sometimes children behave well and sometimes they don't. Have you had to spank [focal child] when he/she behaved badly in the past week?" Those who answered "yes" were then asked "About how many times have you had to spank [focal child] in the past week?" The 6 cases with spanking frequencies greater than 3 were recoded as 3 for these analyses.

Two aspects of this spanking variable merit mention. First, the item is ambiguous. Spanking was not defined for the participants and may have been interpreted by different NSFH parents as meaning everything from a light slap on the hand to a hard blc v with an object. Additionally, some participants may have assumed a singular "you" (i.e., asking how many times (s)he personally had to spank the child), while others assumed a plural "you" (i.e., how many times did the child have to be spanked by anyone in the household.) Responses in line with the first interpretation are likely to have yielded an underestimate of the number of times the child was spanked. Second, this variable assesses only spankings during the last week. The fact that the child was not spanked during the week of the interview does not mean that the parent(s) never spanked the child.

Demographic controls and grouping variables. Demographic controls included parent age in years and household income. Because the NSFH-computed total household income summary variable was not available for approximately 20% of the families in the sample, missing values were imputed using results from regression equations based on respondent and spousal income, employment patterns, and household structure. (Household income was the only variable used in this report for which missing values were imputed.) Parent gender was included as a control in the set of regression equations that were computed separately for mother-father families. Parent gender could not be included in the structural equation models, since the variance shared by dummy variables assessing parent gender and family structure resulted in matrices that the modeling program classified as "not positive definite." (High levels of collinearity between variables impede and sometimes prevent the estimation of structural equation models.)

The hypotheses were tested by grouping children according to gender, parent race (because child race is not indicated in the NSFH), family structure, and child age (4-7, 6-9, and 8-11 years). In addition to the cognitive shift in children's perceptions of adult authority that occurs at approximately age 7 (cf. Introduction), the 4-7 vs. 8-11 split provided the most even distribution of cases across "older" and "younger" children in the NSFH. Our decision to also analyze the overlapping age 6-9 category in the final set of analyses was based on our desire to provide a more developmental perspective of the effects of spanking on children's aggression and to permit direct comparison of our results with results presented by Straus, Sugarman, and Giles-Sims (this volume) who used data from children aged 6-9 in the National Longitudinal Survey of Youth Child Supplement (NLSY-CS). Children under age 4 were not examined in this study, since no Time 2 self-reports were collected from children that young.

Parenting variables. Three indices of parenting were also included as controls since other researchers have emphasized the importance of considering the broader parent-child relationship when investigating the effects of specific parenting practices such as spanking on child outcome.[1] Two of these variables are from the parents' self-administered questionnaire which assessed parents' perception of their behavior toward all children in the household (i.e., a single response for the group). Parents were asked how often they praised their children and how often they yelled at them. Responses were: 1 (never), 2 (seldom), 3 (sometimes), and 4 (very often). Unfortunately, the lack of a response category between sometimes and very often yielded quite skewed data with 71% of parents reporting that they praised their children very often, and 54% reporting that they sometimes yelled. Despite these limitations, these

variables are probably the best indicators of the general parenting context available in the NSFH.

The third parenting variable is a crude dichotomous indicator of the presence of rules for the focal child. Because the NSFH includes different rule items for focal children of different ages, some sensitivity is invariably lost in combining scores across ages into one scale and categories are, admittedly, somewhat arbitrary. This variable was constructed to reflect "low" vs. "normative/high" levels of rules, relative to the number of rule items assessed for children of each age. Three items are included in the interview for parents of 4 year olds. These items assess whether or not the child has a regular bedtime, restrictions on the amount of television viewing, and restrictions on types of television programs. The 80% of the parents responding affirmatively to two or more of these items were classified as having "normative/high" rules. For children age five and over, two additional rule items were considered for a total of five. The two additional items assess whether or not the child has regular chores and whether or not the child is expected to keep the parent informed of his/her whereabouts when away from home. Response sets vary across items, but 60% of the parents selected the most affirmative response for at least 4 of the 5 items. These parents were coded as having "normative/high" rules.

Child aggression at baseline. Efforts to construct Time 1 child adjustment measures within the NSFH are frustrated by several factors: there are a limited number of items assessing child adjustment at Time 1, attempts to combine these few items into theoretical dimensions of child adjustment (e.g., externalizing) yield unacceptably low Cronbach's alphas, and different items were asked for focal children of different ages. Initially, we constructed a

loosely defined "difficult child" index but the use of this index yielded results quite similar to those obtained when we controlled only for the one item that most directly assessed aggression--"[Focal child] bullies or is cruel or mean to others." We opted for the single item as the most parsimonious and easily replicable technique. This item is scored 1 (not true) to 3 (often true) and has a mean of 1.32 (SD = .54).

Time 2

Fights at school. Our primary outcome variable is children's self-reports of frequency of fighting at school in the last 12 months. We selected this item because it is the most direct measure of aggression available in the NSFH, and employing parental reports of spanking and children's reports of fighting precluded any statistical association attributable to method-variance. Actual frequencies of fighting ranged from 0 - 20; frequencies were recoded 0, 1, 2-3, and 4 or more on a scale of 0 - 3 for these analyses ($\underline{M}$ = .45, SD = .81).

Antisocial behavior. The second outcome examined was the parent report on the antisocial subscale of the Behavior Problems Index.[13] Only one of the items in the six-item subscale measures aggression per se--"bullies, or is cruel or mean to others." (Other items are: cheats or tells lies; is disobedient at school; is not sorry after misbehaving; has trouble getting along with teachers; and hangs out with trouble makers.) Additionally, because parents report on both spanking at Time 1 and the BPI at Time 2, it is likely that some portion of any association between the two variables is attributable to a reporter effect.

Despite these limitations, we wanted to include a more comprehensive representation of children's adjustment than was afforded with the single fighting item. Employing the antisocial subscale also permitted potential replication within-sample/across-outcomes, as well

as within-outcome/across-samples (i.e., with results from the NLSY-CS presented by Straus et. al in this volume). The mean BPI score representing the average score on the six items coded 1 (never true) to 3 (often true) was 1.29 (SD = .36). The Cronbach's alpha for this sample of children aged 10-17 at Time 2 was .68 and is comparable to alphas obtained in the development of the scale.[13]

Analyses and Results

Preliminary analyses

Prior to testing the hypotheses, we attempted to identify potential covariates of the frequency of spanking using Pearson correlations and MANCOVA. This was done so that any associations obtained between spanking and the child outcome variables could be more confidently attributable to spanking per se, and not to demographic characteristics or to parenting practices that tend to co-occur with spanking. These analyses suggested that mothers spanked more than fathers; younger parents (especially those age 25 or under) spanked more than older parents, parents with low rules spanked more than those with normative/high rules; spanking was negatively associated with household income and parents' self-reported tendency to praise their children; and spanking was positively related to parents' self-reported tendency to yell at their children and to the child's aggression at baseline. When appropriate (cf. Method section), these variables were controlled for in subsequent analyses.

Primary analyses

Testing for main effects

The first set of primary analyses were conducted using LISREL.[14] LISREL is a statistical package that estimates structural equation models (SEM), also called "causal"

models because they elucidate the underlying causal relationships between variables. SEM has developed out of path analysis, but unlike path analysis, SEM permits the simultaneous estimation of direct and indirect paths from predictor variables to multiple outcome variables.

"Input" to LISREL includes the specification of a causal model (i.e., the expected paths between variables) and some type of correlation or covariance matrix for the variables of interest. All models estimated for this report were derived from polychoric correlation matrices which yield the best estimates of underlying causal relationships when variable sets include both continuous and ordinal variables. Improved estimates from polychoric matrices (relative to those derived from other types of matrices) are attributable to the several different types of correlations in polychoric matrices. Values for pairs of continuous variables represent product-moment (Pearson) correlations; values for pairs of variables wherein one variable is continuous and the other ordinal represent polyserial correlations; and values for pairs of ordinal variables represent an estimate of the polychoric correlation--which is derived from a maximum-likelihood contingency table where an underlying bivariate normal distribution is assumed. The polychoric correlation matrix computed for this research is presented in Table 1.

Insert Table 1 about here

Using an iterative process, LISREL estimates the most likely values for each path specified in the model based on the matrix provided. "Output" provided by LISREL includes t-values indicating the significance of each individual path as well as several summary indices

of the goodness-of-fit of the data to the complete model specified. (The summary fit index most familiar to non-SEM users is the chi-square.)

A major advantage of SEM programs is their ability to estimate separate path coefficients by group for one or more specified paths within the model. We will call these models multiple-group models, in contrast to full-sample models. The summary goodness-of-fit indices obtained for multiple-group models can then be compared with the goodness-of-fit indices obtained for full-sample models to determine which model best represents the underlying causal relationships between variables. Statistical significance in the goodness-of-fit across models (i.e., when one model can be said to fit better than an alternative) is often determined by comparing the difference in chi-square relative to the difference in degrees of freedom across the two models.[15] When a multiple-group model yields a better fit than a full-sample model, a main effect for group--analogous to a main effect in regression or ANOVA--is inferred.

The first step in our primary analyses was to estimate a full-sample model specifying the direct paths from the control variables already identified to the two child outcomes, as well as the intercorrelations between controls. Paths with t-values greater than 1.96 ($p \leq .05$) were retained. Results from this initial estimation indicated that four controls directly predict both child outcomes. Boys, older children, children who were more aggressive at baseline, and children with "low" rules got into more fights at school and demonstrated higher levels of antisocial behavior five years later. Additionally, more frequent fighting was found for children who were Black and for those with single mothers; and higher levels of antisocial behavior were indicated for children whose parents were younger, had less income, praised

their children less, and yelled at their children more. This initial model served as the comparison model for our subsequent investigation of possible main effects of child age, gender, race, and family structure on the effects of spanking on child outcomes.

We sought evidence for these main effects by estimating four 2-group models. Each model divided the sample according to the hypothesized effects (e.g., older vs. younger children) and included spanking, the two outcome variables, and the control variables. (The 8 matrices employed--computed separately for younger children, older children, boys, girls, Whites, Blacks, single-mother families and mother-father families--are available from either author.) Direct paths from the controls to the outcome variables were specified according to the model that had been obtained for the full sample (cf. preceding paragraph). To determine whether the 2-group models (wherein the path from spanking to child outcome was estimated separately by group) fit the data better than the full-sample model, we compared the chi-squares obtained from the 2-groups model with the chi-square obtained from the full-sample model.

These comparisons indicated significantly different paths from spanking to fighting for younger vs. older children and for Whites vs. Blacks. As an example, the model for younger vs. older children is depicted in Figure 1. T-values indicate that paths from spanking to fighting for younger (-.10) and older (.12) children are both significantly different from zero, and the chi-square value of the difference obtained for models in which estimates for the two groups were and were not permitted to vary indicates that the two paths are also significantly different from each other ($\chi 2(1) = 17.77$). This difference is in accord with our hypothesis regarding younger vs. older children. On the other hand, the path from spanking to antisocial

behavior, our secondary dependent variable, was also significant of its own right, but was not significantly different across groups. This contradicts our hypothesis and is in accord with findings from the NLSY-CS (cf. Straus et. al, this volume).

Insert Figure 1 about here

The parameter estimates from spanking to fighting and the chi-square values indicating differences between the paths across groups for all four models are presented in Table 2. Coefficients for the paths from spanking to antisocial behavior were not tabled because significant differences across groups were not indicated in any of the models; all coefficients were close to .09 as in Figure 1 with slight differences attributable to standardization within each model. (A set of figures that includes coefficients for all significant paths are available from either author.)

Insert Table 2 about here

Testing for interaction effects

We also sought interactions between the grouping variables. Analyses conducted with various combinations of 4 and 8 groups (e.g., White boys, Black boys, White girls, Black girls) indicated various two-way and three-way significant interactions for fighting. These results seemed to call for a separate examination of children in each age-by-gender-by-race-by-family structure group (i.e., 16 groups). Unfortunately, our sample size was not large

enough to support a 16-groups model since the computation of polychoric matrices requires adequate representation in each response category of each variable for each group.

As a more manageable alternative, we conducted a series of ordinary least squares (OLS) regression analyses wherein separate equations were computed for each of the 16 groups identified above. Conducting separate analyses also permitted the examination of children aged 6-9, yielding a sort of "moving window" view across three overlapping age categories (4-7, 6-9 and 8-11 years) for a total of 24 equations. For each analysis, controls were entered simultaneously followed by the entry of the spanking variable. Analyses were run "unweighted" (i.e., NSFH weights to adjust for oversampling of certain subgroups were not applied), because the general NSFH adjustments are based, in large part, on our grouping variables (e.g., race, family structure) and within-subgroup adjustment values have not been made available. Because OLS regression deletes cases with missing data, results from these analyses are based on a slightly reduced sample of 1027 families.

The b-weights obtained for the effects of spanking on children's reports of fighting at school for each of the 24 equations are presented in Table 3. (Unstandardized b-weights rather than Betas are presented to permit comparability across the analyses.) In accordance with our hypotheses, b-weights tend to be more positive for older vs. younger children, for boys vs. girls, for Whites vs. Blacks, and for single-mother families vs. mother-father families. Examination of these b-weights through the "moving window" provide some evidence for a pattern of either increasing positive, decreasing negative, or a shift from negative to positive b-weights as children in each of the gender-by-race-by-family structure groups mature.

Insert Table 3 about here

Timing of this developmental shift appears to vary with context. Of particular interest, is the strong positive association between spanking and fighting for 8-11 year old White boys in single-mother homes. This unstandardized coefficient suggests that each additional point on the Time 1 spanking scale (coded 0, 1, 2, 3 or more) predicted 1.33 additional points on the fighting scale (coded 0, 1, 2-3, 4 or more) five years later. While it is possible that this anomalous strong positive association is attributable to chance, the identification of this group as most at risk for experiencing harmful effects of parental spanking is congruent with the developmental/contextual theory proposed and with findings from longitudinal studies of single-mother families[9,10] and of delinquent youth.[11] It follows that the magnitude of the association may be attributable to an interaction effect of the four factors hypothesized to increase the likelihood that spanking will be perceived by children as an act of aggression (i.e., being older, male, White, and residing with a single-mother).

Regression equations for the 24 groups were also calculated for parents' reports of antisocial behavior. The obtained b-weights ranged from -.48 for 8-11 year old Black boys in mother-father households to .24 for 8-11 year old White boys in single-mother homes (neither of which was significant). Most values were close to zero, and except for the b-weights for White boys in single-mother homes becoming increasingly more positive with age, the pattern appeared random. To save space, these results are not presented, but are available from either author.

Discussion

We hypothesized associations between spanking and children's subsequent aggression that were stronger/more positive for older vs. younger children, boys vs. girls, Whites vs. Blacks, and single-mother families vs. mother-father families. Significantly different SEM estimates for the paths from spanking to children's fighting were obtained for age and for race, indicating partial support for these hypotheses. If one is inclined to interpret main effects as best representing the underlying relationship between spanking and fighting, these results suggest that spankings deters subsequent fighting by children age 4-7 and by Black children, and fosters the fighting of children age 8-11 and of White children. Path coefficients from spanking to parents' reports on the BPI antisocial subscale did not differ significantly across groups. This average positive association between spanking and general antisocial behavior, juxtaposed with the findings that spanking may deter fighting for some children, suggests both beneficial and detrimental effects of parental spanking across various children and various dimensions of child adjustment.

Because more complex analyses had suggested that the relationship between spanking and fighting was not adequately represented in a simple main effects model, we also explored the possibility of interactions between the grouping variables in the prediction of aggression by computing regression equations for 24 age-by-gender-by-race-by-family structure groups. While only two obtained associations were statistically significant, visual examination of the pattern of b-weights obtained for fighting yielded additional support for a developmental/contextual model of the effects of spanking on children's aggression. In accord with such a model, we obtained no evidence that spanking boys younger than age 6, or girls

younger than age 8, fostered subsequent aggression. Moreover, the associations between spanking and subsequent aggression obtained for Black children were primarily negative, yielding further support that spanking may deter aggression among Black children. These findings are in accord with our proposal that the effects of spanking are related to the meaning children ascribe to spanking, and that meaning is related to cultural norms and to the nature of the family hierarchy.

These findings challenge claims that the effects of spanking on child outcome are best understood within a social learning paradigm wherein spanking provides a model for aggression under all or most circumstances for all or most children. For only one subgroup--older White boys in single-mother homes--did we obtain significant results consistent with the notion of "modelled aggression." This subgroup is also identified by Straus et. al as being at particular risk for experiencing undesirable effects of parental spanking and meriting particular consideration in the spanking debate. However, unlike Straus who uses this particularly strong association to bolster his universal anti-spanking stance, we struggle with the practical implications of this finding. Perhaps Straus is correct in asserting that spanking per se leads to subsequent aggression, at least for this group of children. An alternative interpretation also meriting consideration is that a measure of spanking serves as a proxy for other family problems such as lost parental authority, poor management practices, stress or lack of social support. If so, then a more appropriate take-home message (or at least, one we are more comfortable extending) is that for parents experiencing severe family management problems, spanking is <u>not</u> a viable solution to these problems and may exacerbate them.

Interpretive differences aside, the two sets of results present a seeming contradiction

that must be addressed; whereas our findings include both positive and negative associations between spanking and child adjustment problems, the results presented by Straus et al. include almost exclusively positive associations. What accounts for this difference in the overall pattern of results? The studies employed an almost identical item assessing spanking and both conducted analyses separately for children aged 6-9. Both are longitudinal and controlled for pre-existing adjustment problems, socioeconomic status, race, child gender, and crude indices of parenting/home environment. The primary difference that we see in the two studies is that the analyses conducted with the NLSY-CS data did not account for interactions between family structure and other demographic variables. This omission is potentially quite consequential, given that the older children in NLSY-CS are, due to the sample design, a group of children born to young and disproportionally single mothers.

Certainly, additional research is needed. The competing hypotheses described above (i.e., spanking as a model of aggression vs. spanking as a proxy for other family management problems) merit direct investigation in longitudinal databases with more adequate measures of family processes, particularly parental control, than are available in either the NSFH or the NLSY-CS. Research on other types of child outcomes is also called for. We focused on fighting and antisocial behaviors because social learning theorists have devoted much attention to the development of aggression. In contrast, relatively little attention has been devoted to the effects of spanking on the wide variety of other desirable and undesirable child outcomes such as prosocial competence, academic achievement, internalizing, etc. These outcomes may require still different models. Systematic comparisons of the effects of spanking in different contexts (e.g., home and school) must be also undertaken, since findings

from one context cannot be assumed to generalize to another.

In conclusion, we wish to explicitly state that our findings should not be used as an endorsement of spanking for any child, but as a call for research employing more complex models and methods. Most likely, an accurate understanding of the role spanking plays in children's socialization will not be gained until researchers have undertaken comprehensive investigations of the effects of spanking per se on a wide variety of outcomes, across many subgroups of children, in different contexts, using data collected specifically for this purpose. Until then, we will remain uncomfortable with efforts to persuade parents that physical discipline per se is necessarily harmful for children. Such attempts to alter the childrearing practices of the majority of Americans may be merited on the basis of personal values, but ought not be advanced as a matter of certain empirical knowledge.

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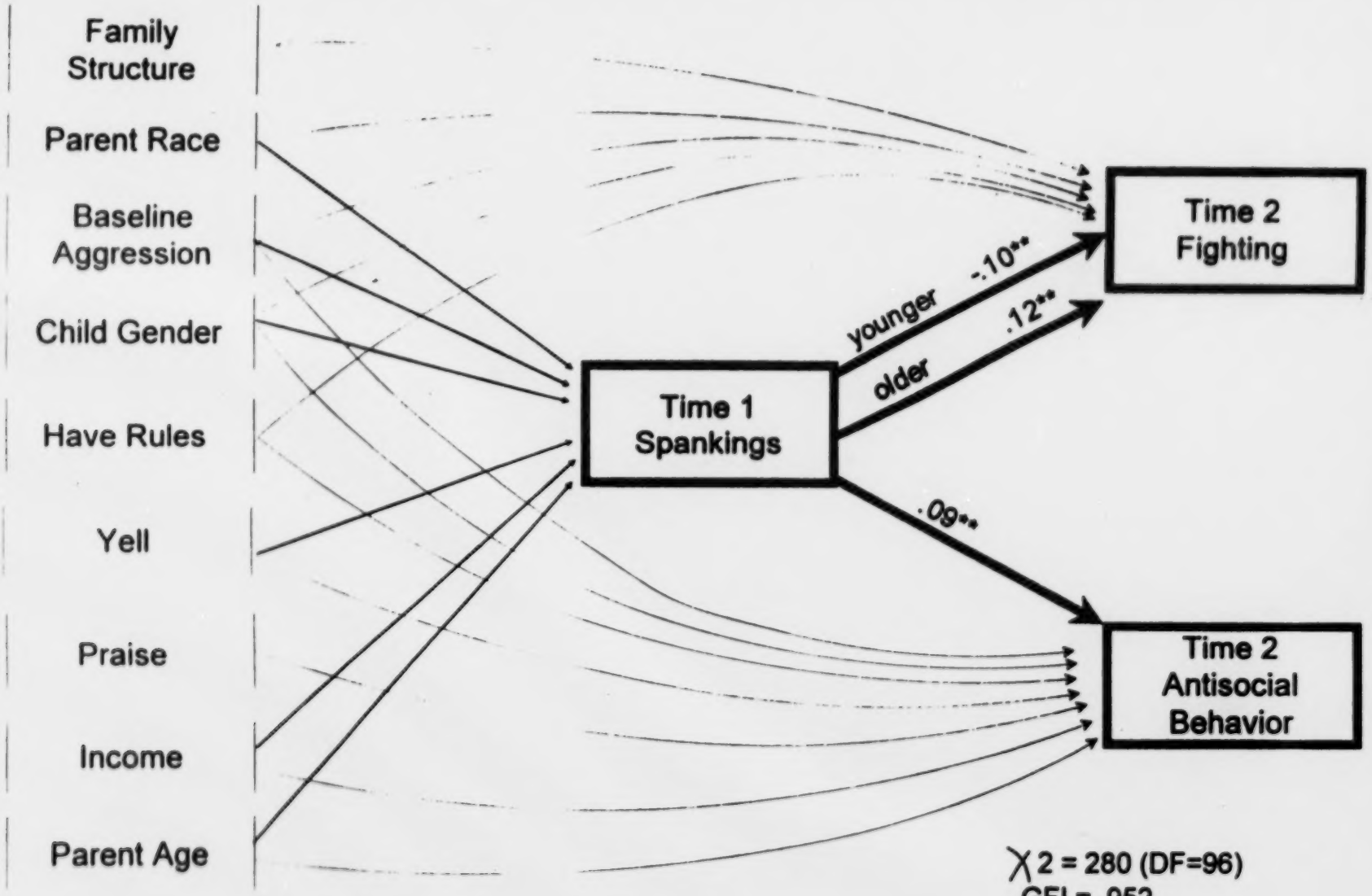
(Caption for Figure 1)

Differential effects of parental spanking on younger (4-7) and older (8-11) children's fighting at school.



**p ≤ .01

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Table 1

Polychoric Correlation Matrix for the Full Sample

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Family Structure	1.00												
2. Parent Age	-.24	1.00											
3. Income	-.50	.23	1.00										
4. Parent Race	-.37	.11	.22	1.00									
5. Child Gender	-.05	.01	-.01	.03	1.00								
6. Child Age	.08	.32	.05	.08	-.01	1.00							
7. Baseline Aggression	.10	-.09	-.09	.04	-.05	.01	1.00						
8. Praise	-.10	.13	.16	.24	.03	-.12	-.08	1.00					
9. Yell	.03	-.12	-.01	.10	-.08	-.03	.21	-.06	1.00				

(continued)

Table 1. *(continued)*

	1	2	3	4	5	6	7	8	9	10	11	12	13
10. Have rules	-.08	.03	.00	-.07	-.05	-.06	-.08	.22	-.20	1.00			
11. Spankings	.14	-.23	-.18	-.20	-.17	-.33	.15	-.09	.21	-.03	1.00		
12. Fighting	.24	-.08	-.08	-.20	-.47	-.08	.12	-.11	.08	-.09	.15	1.00	
13. Antisocial Behavior	.13	-.13	-.13	-.04	-.23	.04	.23	-.17	.22	-.16	.19	.38	1.00

Table 2

The Relationship between Spanking at Time 1 and Fighting at Time 2: LISREL Common-Metric Standardized Coefficients

Main Effect	Group 1 Coefficient		Group 2 Coefficient		χ^2 Difference*
Younger v Older	Younger	-.10**	Older	.12**	17.77
Blacks v Whites	Blacks	-.30**	Whites	.08*	35.11
Girls v Boys	Girls	-.09*	Boys	.03	4.88
Mother-Father v Single Mothers	Mother		Single		
	Father	-.02	Mothers	-.05	.44

Note: Because parameters are standardized within each model, comparisons across models cannot be made, i.e., the coefficient for girls may not be in the same unit as the coefficient for older children.

* χ^2 differences of five or more are significant at the $p \leq .05$, two-tailed, criterion.

** $p \leq .01$, * $p \leq .05$

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Table 3

Age by Gender by Race by Family Structure Effects of Spanking on Fighting: Unstandardized OLS Regression Coefficients (Sample Size)

	Race			
	White		Black	
Age/Gender Group	Mother-Father	Single-Mother	Mother-Father	Single-Mother
Girls				
4-7 years	.01 (n = 183)	-.16 (n = 45)	-.44* (n = 30)	-.30 (n = 24)
6-9 years	-.07 (n = 195)	-.05 (n = 40)	-.21 (n = 38)	-.13 (n = 34)
8-11 years	.05 (n = 147)	.18 (n = 47)	-.25 (n = 24)	.01 (n = 27)
Boys				
4-7 years	.04 (n = 146)	.00 (n = 41)	-.33 (n = 35)	-.23 (n = 31)
6-9 boys	.04 (n = 152)	.18 (n = 51)	.13 (n = 27)	-.39 (n = 30)
8-11 boys	.18 (n = 146)	1.33** (n = 62)	.08 (n = 18)	-.35 (n = 21)

** $p \leq .01$, * $p \leq .05$